

In the Claims

1. (Once amended) A process for the polymerization of olefins comprising contacting olefins with a catalyst system comprising alumoxane and a catalyst precursor represented by the formula



B1
wherein:

Cp is a substituted cyclopentadienyl or a substituted or unsubstituted cycloalkadienyl group other than cyclopentadienyl or a related cycloalkadienyl cogener,

← Each *Q* is independently an anionic leaving group,

← *J* is a Group 16 atom,

a is the oxidation state of *D*,

D is a Group 4 metal, provided however that when *Cp* is mono-cyclic unsubstituted cyclopentadienyl group, *D* is not titanium, and

Y is a heteroatom, a substituted heteroatom or a C_1 to C_{100} hydrocarbyl group that may optionally contain one or more heteroatom(s).

B2
5. (Once amended) The process of claim 3 wherein *Cp* is a substituted indenyl or fluorenyl group

6. (Cancel)

B3
9. (Once amended) The process of claim 1 wherein *Y* is a C_1 to C_{40} alkyl, alkynyl, aryl, or aryl alkyl group.

12. (Cancel)

13. (Cancel)

18. (Once amended) A composition comprising alumoxane and a catalyst precursor represented by the formula



B4
wherein:

Cp is a substituted cyclopentadienyl or a substituted or unsubstituted cycloalkadienyl group other than cyclopentadienyl or a related cycloalkadienyl cogener,

each *Q* is independently an anionic leaving group,

J is a Group 16 atom,

a is the oxidation state of *D*,

D is a Group 4 metal, provided however that when *Cp* is mono-cyclic unsubstituted cyclopentadienyl group, *D* is not titanium, and

Y is a heteroatom, a substituted heteroatom or a C_1 to C_{100} hydrocarbyl group that may optionally contain one or more heteroatom(s).

B5
22. (Once Amended) The composition of claim 18 wherein *Cp* is a substituted indenyl or fluorenyl group [the indene or fluorine is substituted].

23. (Cancel)

B6
26. (Once amended) The composition of claim 18 wherein *Y* is a C_1 to C_{40} alkyl, alkynyl, aryl, or aryl alkyl group.

29. (Cancel)

30. (Cancel)